

# TOSHIBA AIR CONDITIONER

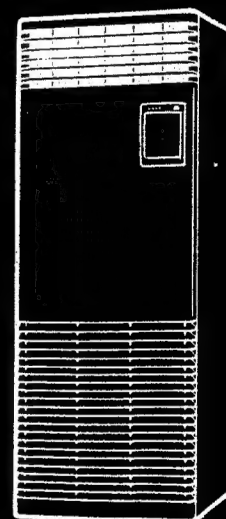
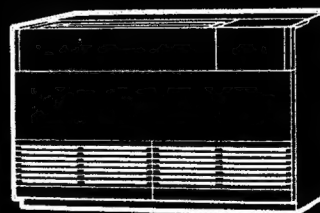
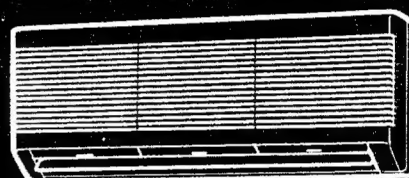
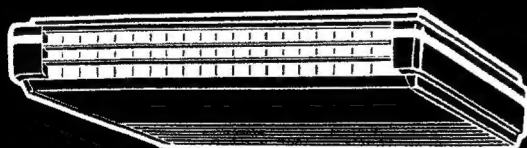
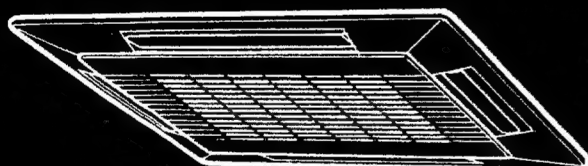
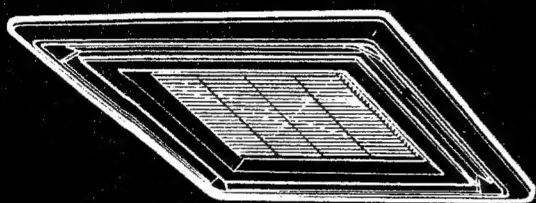
## Indoor Unit

RAV-453 CHE, KHE, LHE, UHE  
RAV-453 CHE, KHE, LHE  
RAV-160 UH  
RAV-563 CHE, KHE  
RAV-713 CHE8, KHE8, FHE8, LHE8, UHE8  
RAV-713 CHE8, KHE8, FHE8, LHE8  
RAV-260 UH  
RAV-1003 CHE8, FHE8, UHE8  
RAV-1003 CHE8, FHE8  
RAV-360 UH  
RAV-1253 CHE8, FHE8, UHE8  
RAV-1253 CHE8, FHE8  
RAV-460 UH

## SPLIT TYPE

### Outdoor Unit

RAV-S453 HE  
RAV-160 AH  
RAV-160 AH  
RAV-S563 HE  
RAV-S713 HE, HE8  
RAV-260 AH8  
RAV-260 AH8  
RAV-S1003 HE8  
RAV-360 AH8  
RAV-360 AH8  
RAV-S1253 HE8  
RAV-460 AH8  
RAV-460 AH8  
RAV-G1003 HE8  
RAV-G1253 HE8



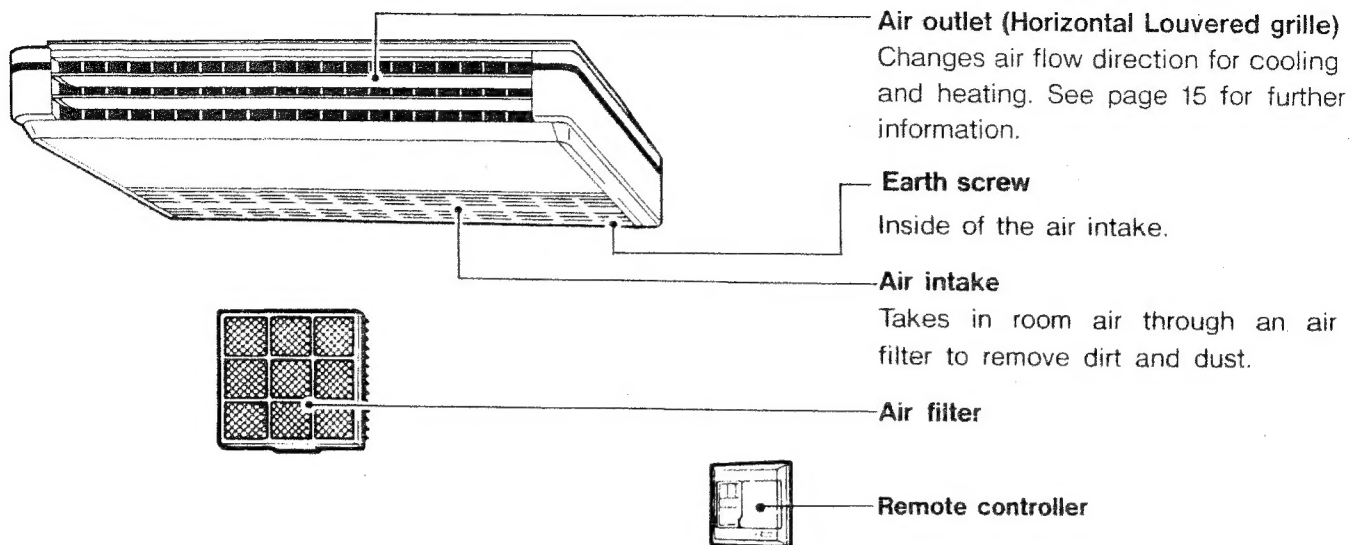
## CONTENTS

Thank you very much for your purchase of our TOSHIBA air conditioner. Please read this manual carefully before starting operations with your air conditioner to ensure satisfactory performance. After reading the manual, be sure to keep it with you.

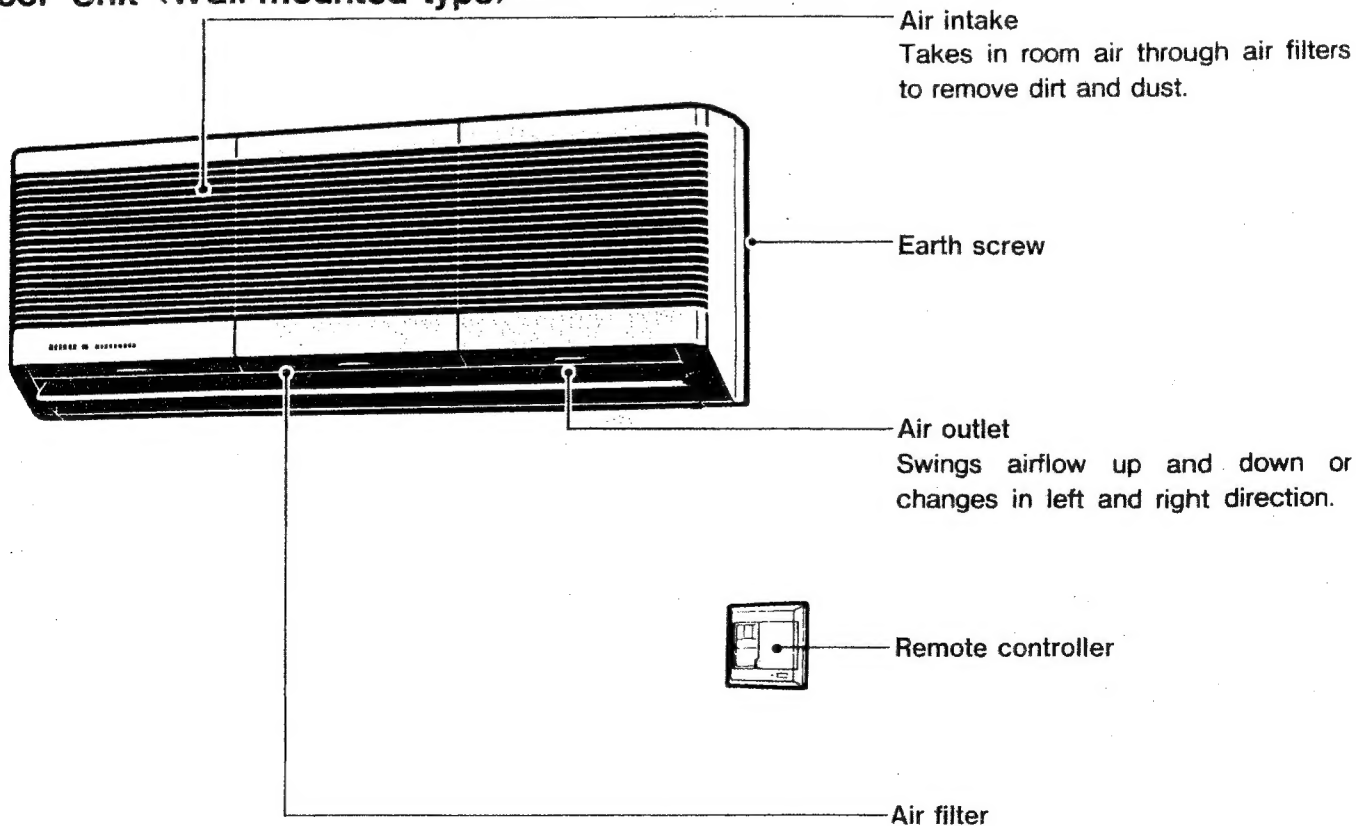
NAMES AND FUNCTIONS OF COMPONENTS .....	1
ADHERE TO THE FOLLOWING GUIDELINES .....	5
PRECAUTIONS .....	6
NAMES AND FUNCTIONS OF CONTROLS .....	8
OPERATION .....	10~20
CARE INFORMATION .....	21
TROUBLESHOOTING .....	24
INSTRUCTIONS FOR EXTENDED SERVICE LIFE .....	26

# NAMES AND FUNCTIONS OF COMPONENTS

## Indoor Unit <Ceiling type>



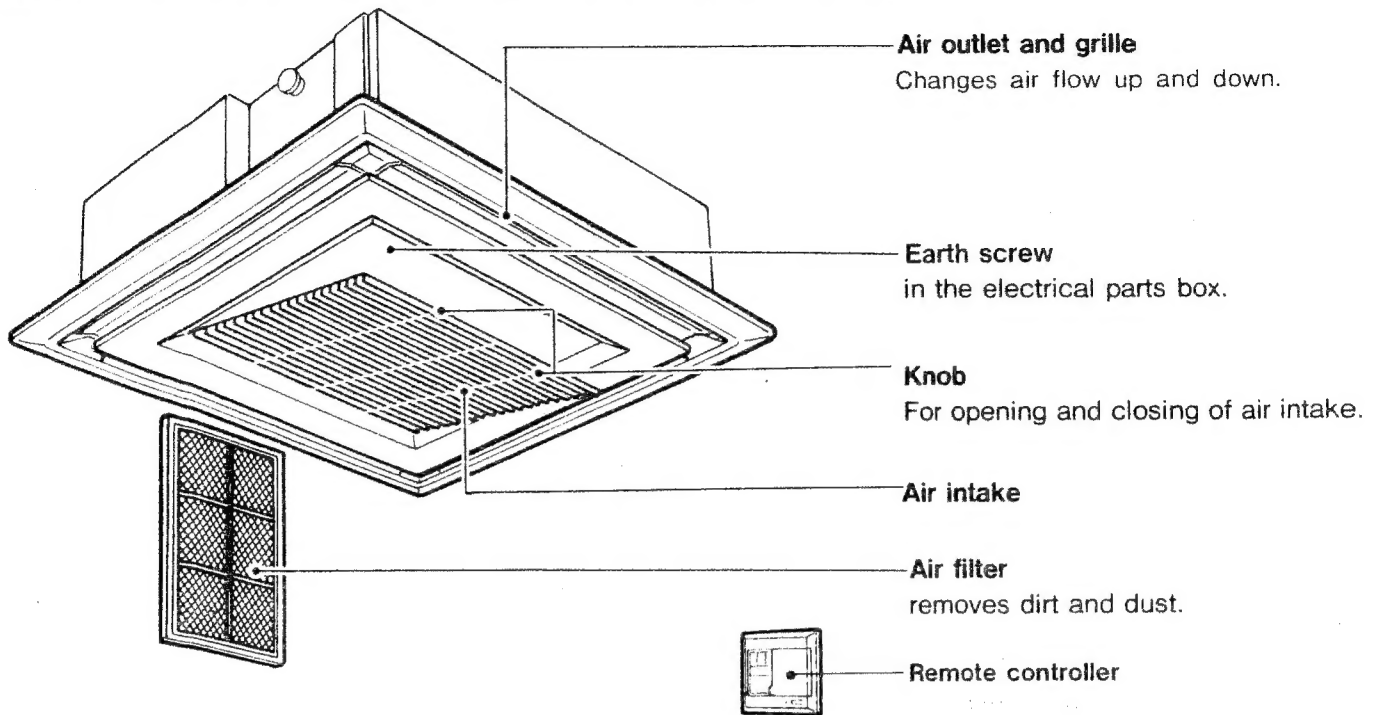
## Indoor Unit <Wall-mounted type>



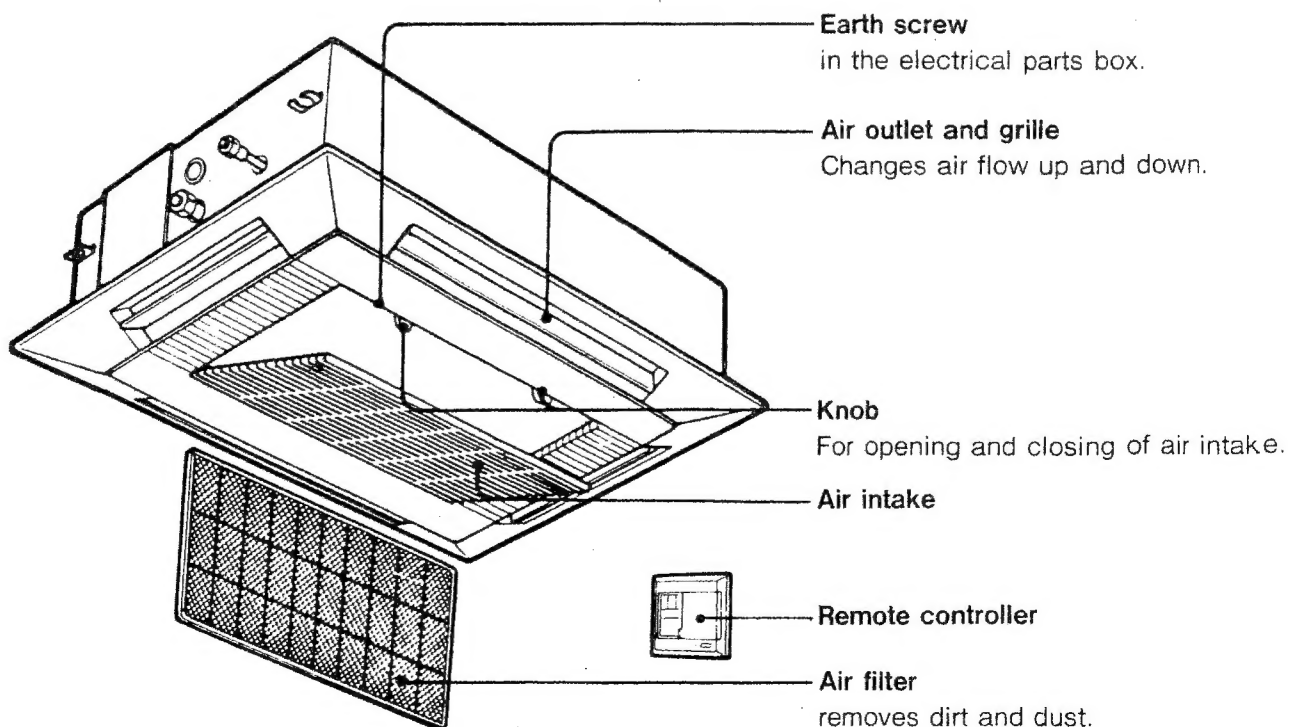
# NAMES AND FUNCTIONS OF COMPONENTS

## Indoor Unit <Cassette type>

Model : RAV-453 UHE, 713 UHE8, 1003 UHE8, 1253 UHE8

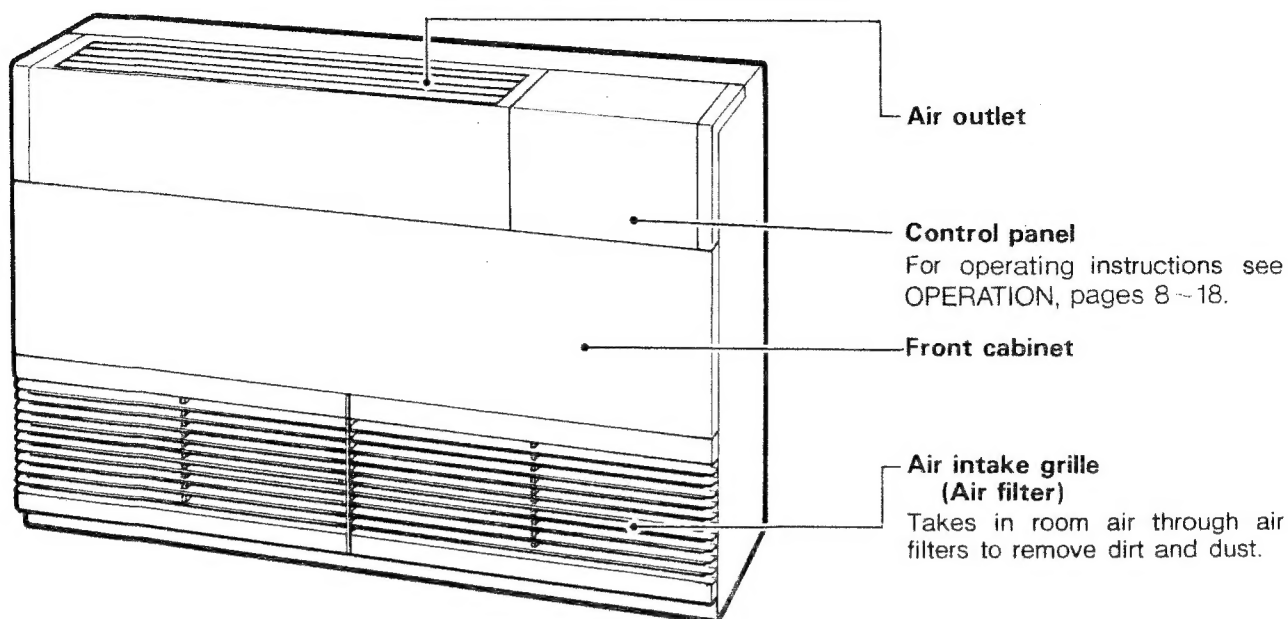


Model : RAV-160 UH, 260 UH, 360 UH, 460 UH

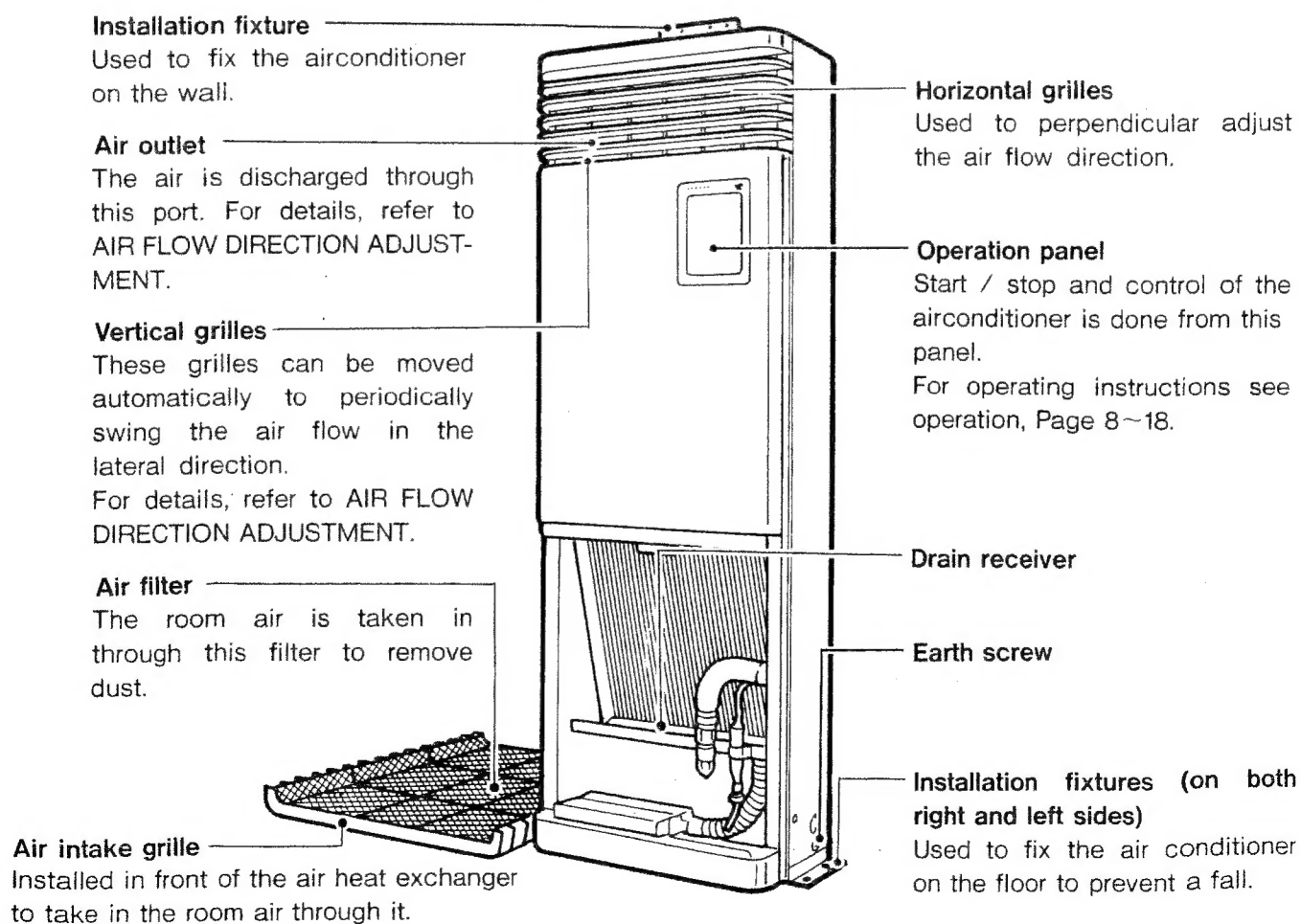


# NAMES AND FUNCTIONS OF COMPONENTS

## Indoor Unit <Console type>

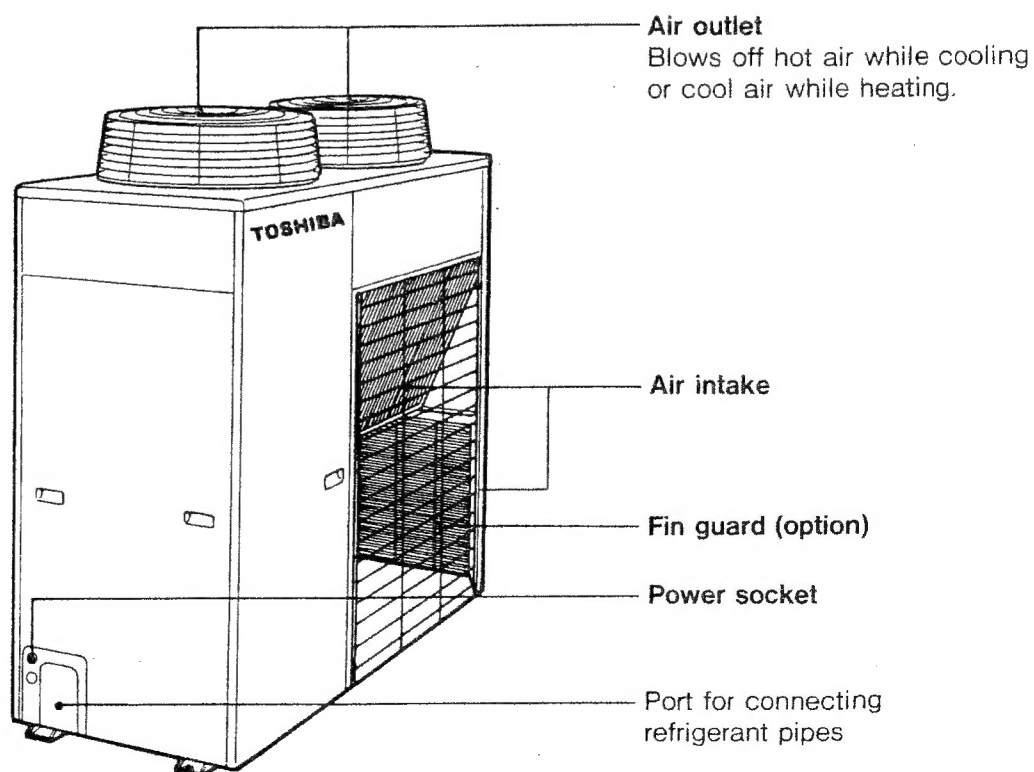
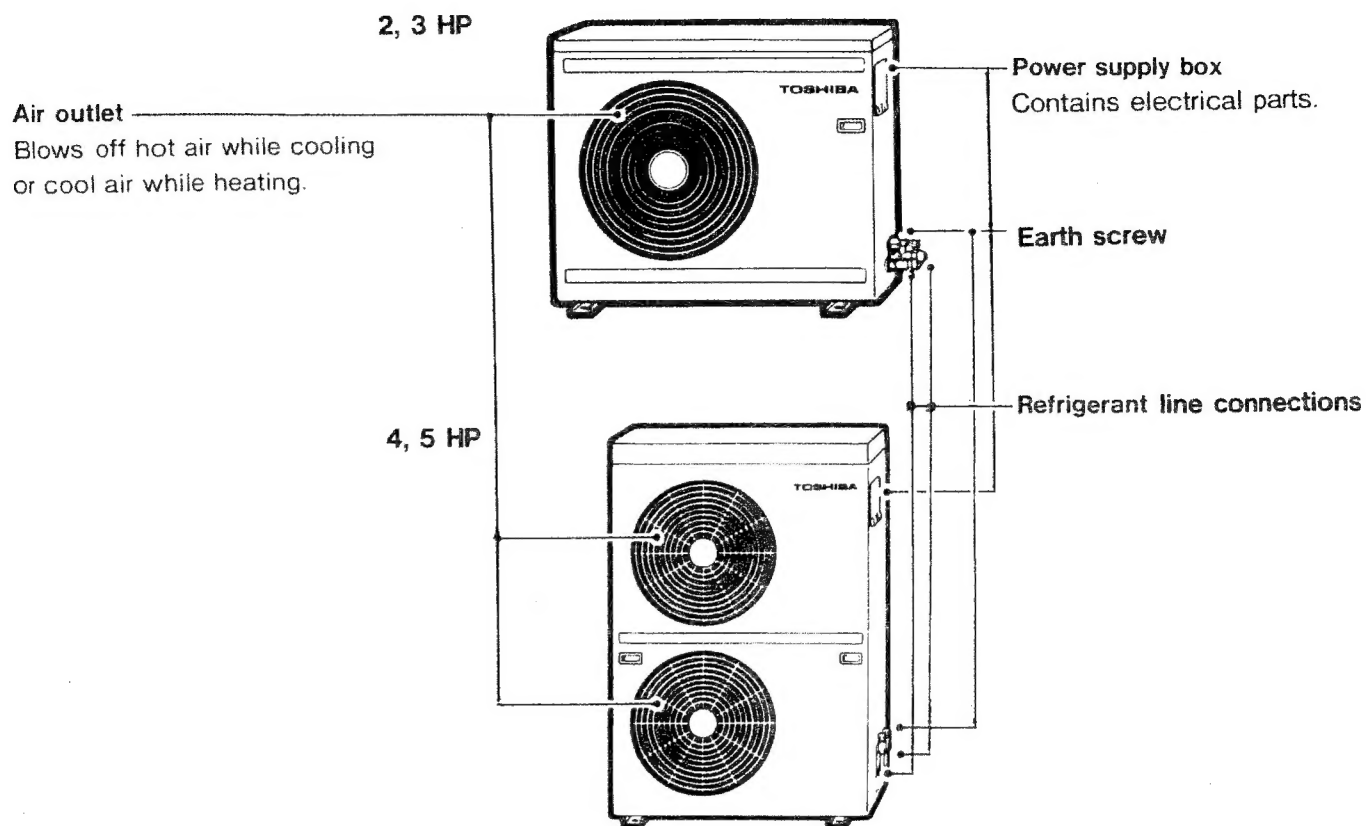


## Indoor Unit <Floor-standing type>



# NAMES AND FUNCTIONS OF COMPONENTS

## Outdoor Unit



(Typical example: RAV-G1253HE8)

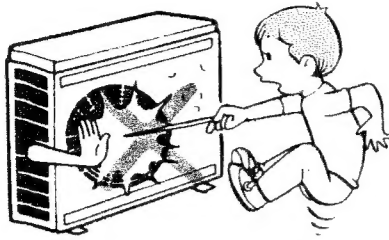
## ADHERE TO THE FOLLOWING GUIDELINES

### CAUTION

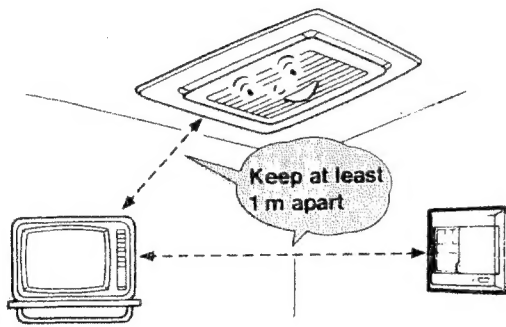
- Leave the air conditioner's power switch ON for at least 12 hours before operation. Do not turn the power OFF for short term stoppages such as a 24-hour period. (This is because power must be kept flowing to the crankcase heater and the compressor must be warmed so as prevent the outdoor unit from being placed under any strain during start-up.)



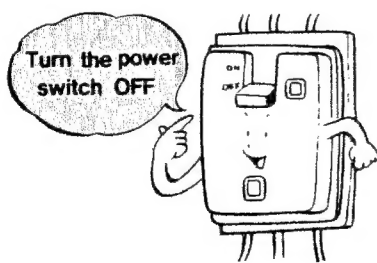
# PRECAUTIONS



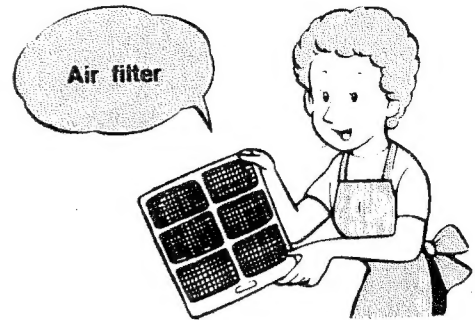
- **Never poke a rod or any other thin object into the air intake or outlet of the indoor or outdoor unit.**  
This will be extremely hazardous because the blower is running at high speed inside.



- **Keep your TV set, radio, etc. at least 1m apart from the indoor unit or remote controller.**  
Interferences in video images or noises may result.

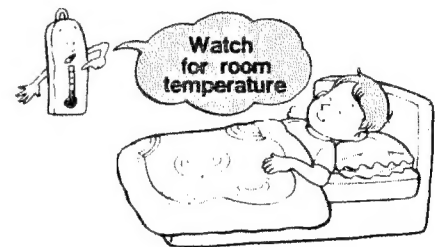


- **Turn the power switch OFF when servicing the air conditioner or when it is found faulty.**

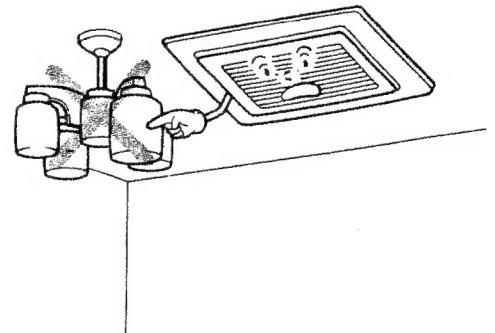


- **Be sure that the air filter is installed at the air intake before starting the air conditioner.**

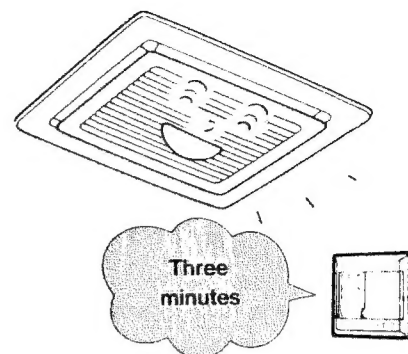
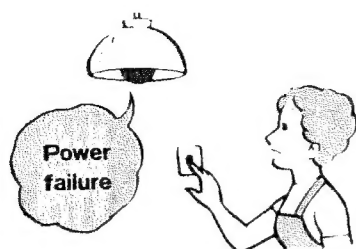
If the air conditioner is run without the air filter properly installed, it will be more liable to failure as a result of taking in contaminated room air.



- **For health, protect your skin against extended exposure to blown airflow.**  
This is especially important when running the air conditioner in rooms where physically handicapped persons, babies, children, senior, or sick persons are present. Watch for room temperature from time to time and adjust the air conditioner for maximum comfort to them.



- **Before switching on the air conditioner, make sure that the air intake and outlet of the indoor and outdoor units are not blocked by obstacles.**



If the electric power fails during operation, the air conditioner is initiated. After power is restored, press the ON/OFF button again.

- Your air conditioner may not start immediately after the ON/OFF button is pressed. Allow for about 3 minutes to let the air conditioner start running automatically. Also, the air conditioner, when restarted, will only blow air for about 3 minutes before cooling operation is resumed.

## Operate the air conditioner only under these conditions :

Temperature	Outdoor temperature	10 ~ 43°C (COOL) -10 ~ 21°C (HEAT)
	Room temperature	21 ~ 32°C (COOL) 17 ~ 28°C (HEAT)
Room humidity		Less than 80% (COOL)

In heating, it operates on the principle of a heat pump, which absorbs heat from outdoors and discharges it indoors. As a result, the heating capacity tends to decline with drops in ambient air temperature. When ambient air temperature is low, your air conditioner may be run with the aid of a heating apparatus.



# NAMES AND FUNCTIONS OF CONTROLS

## OPERATION display

This lights while the air conditioner is operating.

## PREHEAT/DEFROST displays

The corresponding display lights when the heating operation starts up or when defrosting is carried out.

## LOUVER display (Ceiling type, Floor-standing type and cassette type) (The cassette type with the auto louver built-in panel only.)

This indicates that the outlet louvers are automatically driven.

## FAN SELECT displays

These indicate the selected speed at which the air is blown out.

## MODE SELECT displays

These indicate the selected operating mode.

## SET TEMPERATURE display

This indicates the selected temperature setting.

## MALFUNCTION CHECK

This indicates that the air conditioner is now in the inspection mode.

These indicate the CLOCK, ON TIME and OFF TIME modes.

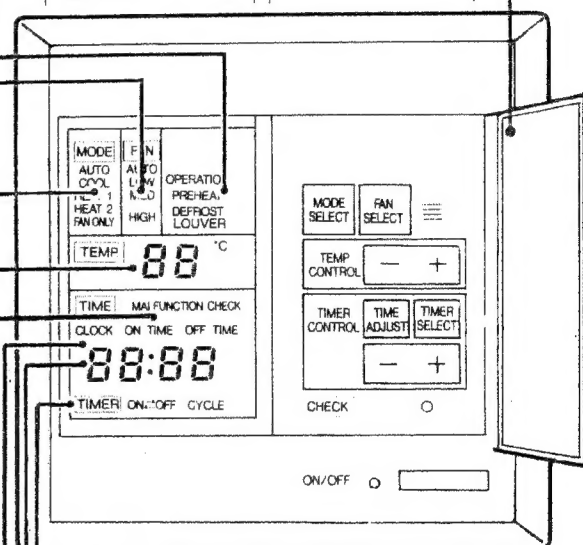
## Switch cover

### Display area

In order to make it easier to describe each display, all the displays are shown below. In fact, however, only the displays corresponding to the operation and settings appear.

### Control area

The switches are pressed to select the desired operation.



## TIMER display

When the timer is being used to operate the air conditioner, this display indicates the ON, OFF, ON→OFF, ON→OFF or CYCLE mode. There is no display for continuous operation.

This indicates the present time, ON or OFF times or the inspection numbers.

# NAMES AND FUNCTIONS OF COMPONENTS

## Switch cover

### Display area

In order to make it easier to describe each display, all the displays are shown below. In actual fact, however, only the displays corresponding to the operation and settings appear.

### Control area

The switches are pressed to select the desired operation.

## MODE SELECT switch

This is used to select the desired operating mode. Each time it is pressed, the displays light up in the following sequence: AUTO → COOL → HEAT1 → HEAT2 → FAN ONLY

## LOUVER OPERATION switch (Ceiling type, Floor-standing type and cassette type.) (The cassette type with the auto louver built-in panel only.)

This is used to drive the outlet louvers automatically when the air conditioner is in operation. When it is pressed, the LOUVER display lights and then the louvers will change in directions. Give another press to stop it.

## FAN SELECT switch

This is used to select the speed at which the cool or warm air is to be blown out. Each time it is pressed, the displays light up in the following sequence: AUTO → LOW → MED → HIGH.

## TEMP. CONTROL switches

These are used to adjust the room temperature. Press the  $-$   $+$  switches to set the desired temperature. The indicated figure (18-29°C) serves as a guideline for the temperature settings.

## TIMER SELECT switch

This is used to select either continuous operation or timer operation. The following modes can be set with timer operation: ON, OFF, ON → OFF, ON → OFF and CYCLE. (For details, see page 15.)

## CHECK switch

## BACK-UP BATTERIES

- \* Three "Toshiba Mercury MR9 Batteries" (1.35V) are used to back-up.
- \* To install the batteries, first insert an ordinary screwdriver into the bottom cut, remove the remote control cover and insert the batteries.
- \* Do not use old batteries or different types of batteries together. This may result in malfunctioning.
- \* Under normal conditions of use, the service life of the batteries is approximately 1 year.

## Operating lamp

This lights while the air conditioner is operating. It winks when the power switch is set ON or when power is restored after a power failure, and it changes to the "lighted" status when operation begins.

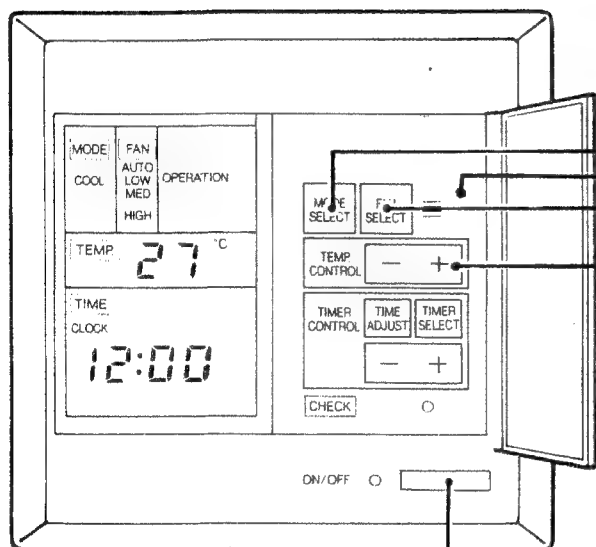
## ON/OFF button

The air conditioner starts operating after a short pause when this button is pressed. It stops operating after a short pause when this button is pressed again.

## TIME ADJUST switch

This is used to set the time for the CLOCK, ON TIME and OFF TIME mode. Each time it is pressed, the displays light up in the following sequence: CLOCK → ON TIME → OFF TIME. The time is set using the  $-$   $+$  switches. (For details, see page 14.)

# COOLING OPERATION



**POWER SWITCH**

Set the power switch to ON.  
(Do not set this switch to OFF during the air conditioner's cooling season.)  
● The ON/OFF lamp (red) now winks.

**1**

Select the operating mode.  
Press the MODE SELECT switch and set the display to COOL.

To drive the outlet louvers automatically, press this switch.  
(Ceiling type, Floor-standing type and cassette type.)  
(The cassette type with the auto louver built-in panel only.)

**2**

Select the air flow speed.  
Press the FAN SELECT switch and set the display of the desired speed at which the cool air will be blown out to AUTO, LOW, MED or HIGH.  
● At the AUTO position, the speed is changed automatically with the room temperature.

**3**

Set the desired temperature.  
Press the **- +** switches to set the temperature as desired.  
● Normally, set it between "26" and "28."

**4**

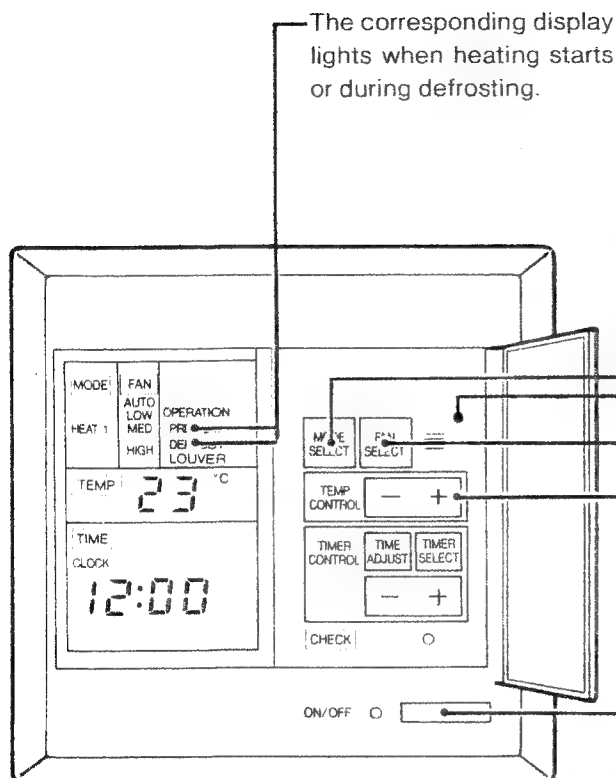
Press the ON/OFF button.  
● The ON/OFF lamp (red) will now light and operation will begin after about a minute.

**OFF**

Press the ON/OFF button again.  
● The lamp goes off and operation will stop.

- If the operation is stopped and then the ON/OFF button is pressed immediately, the air conditioner will not operate for about 3 minutes, to protect the machine. After about 3 minutes, operation will be restarted automatically.
- For details on how to use the timer, see pages 12 and 13.

# HEATING OPERATION



- If the operation is stopped and then the ON/OFF button is pressed immediately, the air conditioner will not operate for about 3 minutes, to protect the machine. After about 3 minutes, operation will be restarted automatically.
- For details on how to use the timer, see pages 12 and 13.

**POWER SWITCH**

Set the power switch to ON.  
(Do not set this switch to OFF during the air conditioner's heating season.)  
● The ON/OFF lamp (red) now winks.

**1**

Select the operating mode.  
Press the MODE SELECT switch and set the display to HEAT 1.

To drive the outlet louvers automatically, press this switch.  
(Ceiling type, Floor-standing type and cassette type.)  
(The cassette type with the auto louver built-in panel only.)

**2**

Select the air flow speed.  
Press the FAN SELECT switch and set the display of the desired speed at which the warm air will be blown out to AUTO, LOW, MED or HIGH.  
● At the AUTO position, the speed is changed automatically with the room temperature.

**3**

Select the desired temperature.  
Press the  $- +$  switches to set the temperature as desired.  
● Normally, set it between "22" and "24."

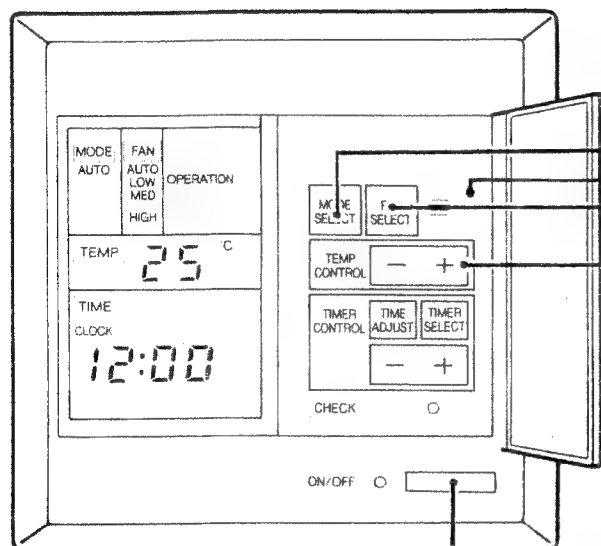
**4**

Press the ON/OFF button.  
● The ON/OFF lamp (red) will now light.  
● With the indoor fan stopped, the preheating operation lasts for between 3 and 5 minutes and then warm air is blown out.

**OFF**

Press the ON/OFF button again.  
● The lamp goes off and operation will stop.

# AUTOMATIC OPERATION



## POWER SWITCH

Set the power switch to ON.  
(Do not set this switch to OFF during the air conditioner's operating season.)

- The ON/OFF lamp (red) now winks.

## 1

Select the operating mode.  
Press the MODE SELECT switch and set the display to AUTO.

To drive the outlet louvers automatically, press this switch.  
(Ceiling type, Floor-standing type and cassette type.)  
(The cassette type with the auto louver built-in panel only.)

## 2

Select the air flow speed.  
Press the FAN SELECT switch and set the display of the desired speed at which the air will be blown out to AUTO, LOW, MED or HIGH.

- At the AUTO position, the speed is changed automatically with the room temperature.

## 3

Set the desired temperature.  
Press the - + switches to set the temperature as desired.

- Normally, set it between "22" and "28."

## 4

Press the ON/OFF button.

- The ON/OFF lamp (red) will now light.
- Firstly, the heating operation begins and then operating mode will change automatically corresponding to temperature setting and room temperature.

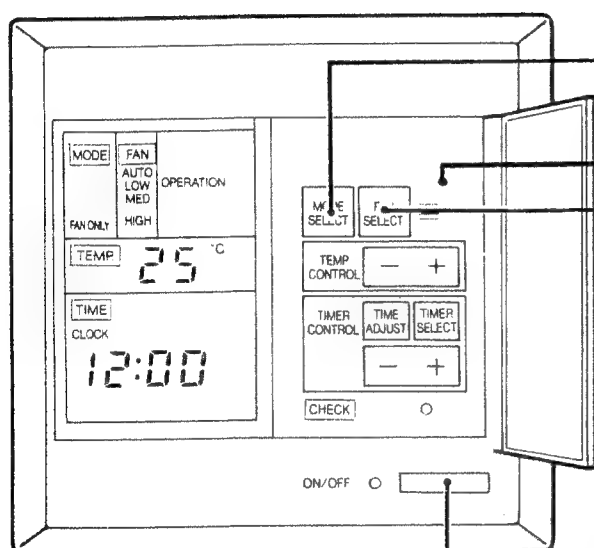
## OFF

Press the ON/OFF button again.

- The lamp goes off and operation will stop.

- If the operation is stopped and then the ON/OFF button is pressed immediately, the air conditioner will not operate for about 3 minutes. This is in order to protect the machine. After about 3 minutes, operation will be restarted automatically.
- For details on how to use the timer, see pages 14 and 15.

# BLOWING OPERATION



## POWER SWITCH

Set the power switch to ON.  
(Do not set this switch to OFF during the season in which the air conditioner is used in the blowing operation.)

- The ON/OFF lamp (red) now winks.

**1**

Select the operating mode.  
Press the MODE SELECT switch and set the display to FAN ONLY.

To drive the outlet louvers automatically, press this switch.

(Ceiling type, Floor-standing type and cassette type.)

(The cassette type with the auto louver built-in panel only.)

**2**

Select the air flow speed.  
Press the FAN SELECT switch and set the display of the desired speed at which the air will be blown out to AUTO, LOW, MED or HIGH.

- At the AUTO position, the speed is changed automatically with the room temperature.

**3**

Press the ON/OFF button.  
● The ON/OFF lamp (red) will now light and operation will begin.

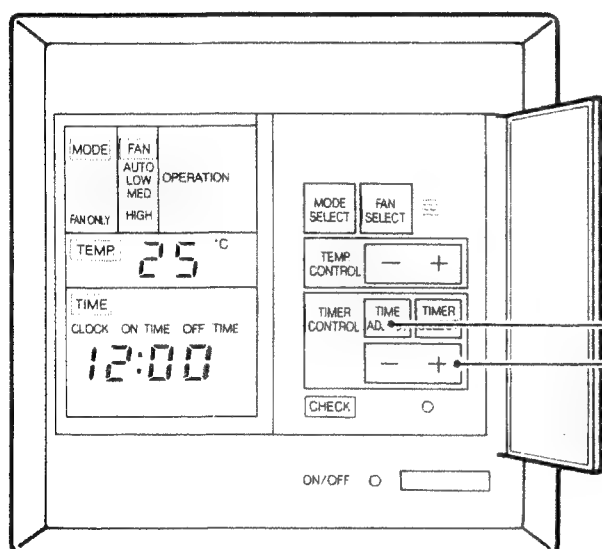
**OFF**

Press the ON/OFF button again.  
● The lamp goes off and operation will stop.

- For details on how to use the timer, refer to page 12 and 15.

# TIME SETTING

- Before operating the air conditioner, set the present time in the following sequence.  
(The air conditioner can be operated without the present time being set but once it has been set, timer operations can be used and the time display will also serve as a clock.)
- Provided that the power switch is ON or the back-up batteries have been installed in the remote controller, the present time will be indicated at all times regardless of whether the air conditioner is operating or not.
- The 24-hour system is used to indicate the time. Thus, "13:00" is indicated at 1 o'clock in the afternoon.
- \* The clock has an accuracy which is equivalent to a monthly error of less than 60 seconds.



## POWER SWITCH

- Set the power switch to ON.
- The ON/OFF lamp (red) now winks.

## 1

Each time the TIME ADJUST switch is pressed, the displays wink in the following sequence: CLOCK → ON TIME → OFF TIME.

Example: CLOCK 12:00

Make the above display wink.

- Set the time while the display is winking in each mode.

## 2

Press the **- +** switches to set the time.

- When given one press at a time, these switches will change the time in 1-minute units; when kept depressed, they will change it in 10-minute units.

## END

Press the TIME ADJUST switch again and set to the CLOCK display.

The setting is completed when the winking stops.

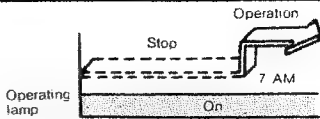
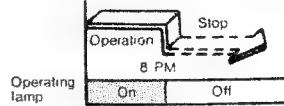
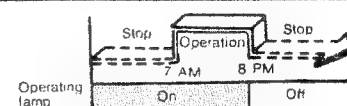
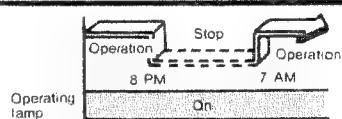
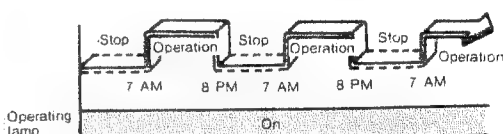
The winking will automatically stop after about 15 seconds even if the END step is not taken, and an adjusted CLOCK display will appear.

The ON TIME and OFF TIME represent the times at which the air conditioner will be started and stopped automatically by the timer. As with the CLOCK, make the ON TIME and OFF TIME wink to set the times.



# TIMER OPERATIONS

First set the present time following the instructions on page 12 and then perform the timer settings.

<b>ON timer</b> (stop→operation)	The air conditioner will begin operating at the preset time.	
<b>OFF timer</b> (operation→stop)	The air conditioner will stop operating at the preset time.	
<b>ON→OFF timer</b> (stop→operation→stop)	At the preset times, the air conditioner will start operating and then it will stop again.	
<b>OFF→ON timer</b> (operation→stop→operation)	At the preset times, the air conditioner will stop operating and then it will start again.	
<b>CYCLE timer</b> (stop→operation→stop) (operation→stop→operation)	Every day the air conditioner will start and stop operating at the same times.	

**1**

Press the TIMER SELECT switch and display ON, OFF, ON→OFF, ON←OFF or CYCLE.

**2**

First set the ON TIME and OFF TIME, and then press the ON/OFF button.

- The ON/OFF lamp (red) lights and timer operation starts.
- Only the ON/OFF lamp lights during operation standby.

**STOP**

Press the ON/OFF button once again.

- The lamp goes off even if there is still time remaining and operation stops.
- The ON TIME and OFF TIME are retained in the memory.

**RE-LEASE**

To stop the timer operation, press the TIMER SELECT switch and clear the ON, OFF, ON→OFF, ON←OFF or CYCLE display.

**CHANGE**

Set the desired times again above steps ① and ②, and press the ON/OFF button.

- The ON/OFF lamp (red) lights and timer operation starts.

## ● Operating Instructions

- Your air conditioner may not start cooling or heating immediately after the ON/OFF button is pressed. Allow for about 3 minutes to let the air conditioner start running automatically. Also, the air conditioner, when restarted, will only blow air for about 3 minutes before cooling or heating operation is resumed.
- Avoid frequent mode transfers between cooling and heating, which may cause a trouble.
- The air conditioner is liable to malfunction due to abnormal signals caused by lightning or car radio. To protect against such malfunction, set the power switch to OFF, then to ON again.

## ● Auto-Defrost Operation

- During heating operation in winter, the heat exchanger in the outdoor unit may be frosted under the condition of low ambient air temperature, with the result of declining heating capacity. The air conditioner automatically carries out defrosting in winter.
- During defrosting operation, the DEFROST display stays on and the blowers in the indoor and outdoor units are stopped. An opaque, misty current of chilled air may be found to arise from the outdoor unit at this time, but this is not a sign of failure.
- Defrosting operating is completed in less than 10 minutes.

## ● Protective Device (High-Pressure Switch)

Automatically shuts down the air conditioner when it is overloaded.

The protective device may be tripped in any of the following situations.

### While Cooling

- The air intake or outlet of the outdoor unit is blocked.
- The ambient temperature at which the outdoor unit is in operation is 43°C or higher.
- The air conditioner has been run over extended periods of time at room temperatures above 32°C.
- The air outlet of the outdoor unit has been exposed to strong gusts of wind.

### While Heating

- The ambient temperature at which the outdoor unit is in operation is 21°C or higher.
- The ambient temperature is high and the room temperature exceeds 28°C.
- The air filter is clogged with an unusually large amount of dust or dirt.
- The air outlet of the indoor unit is blocked.

To reset the protective device:

1. Turn off the power switch.
2. Remove the condition that caused the protective device to be tripped.
3. Turn on the power switch, and restart the air conditioner as instructed in OPERATION, pages 8~18.

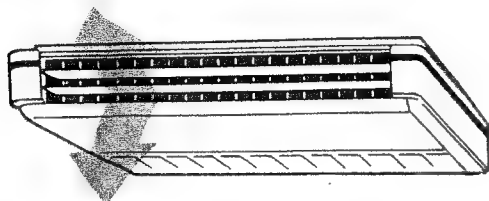
# AIR FLOW DIRECTION ADJUSTMENT

**<CEILING TYPE>** The horizontal louvers can be driven automatically to enhance cooling or heating effect.

## Horizontal adjustment

### Automatic louver operation

Press the LOUVER OPERATION switch, the horizontal louvers will change in directions and the wind will blow out widely.

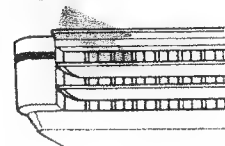


### Fixed louver use

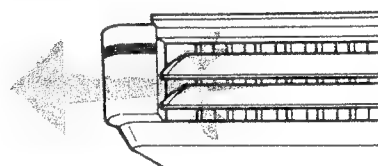
Select the good louver direction depending on cooling or heating to promote air-conditioning effect, when the louvers are fixed in a direction. To change louver directions, press on and off the LOUVER OPERATION switch.

### During cooling operations

In case of cooling, be sure to set the louvers to blow the air from front in order to get uniform circulation of a cool air throughout the room.

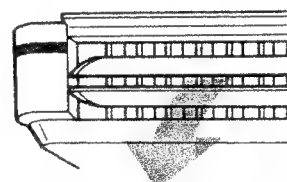


To get a longer reach of a cool air, it is effective that the louver position is set as the figure below.



### During heating operations

In case of heating, be sure to make the louvers downward in order to deliver a hot air at you foot.

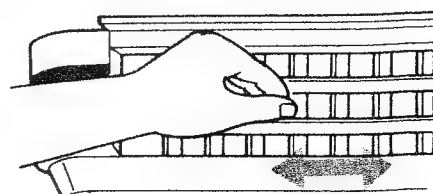


## CAUTIONS

- Condensed dew may be dropped over the cabinet or louver surfaces during cooling operation with the louvered grille facing downward.
  - The room temperature may be uneven during heating operation with the louvered grille facing horizontal.
  - Don't move the horizontal louvers by hand, otherwise malfunction may occur.
- Use the LOUVER OPERATION switch on a remote controller to change the direction of louvers. It takes a few seconds after the LOUVER OPERATION switch was pressed to stop the louvers. Press the switch taking into account the fact above.

## Lateral adjustment

To change lateral directions of a blown out air, adjust the vertical louvers in back of the horizontal ones as you like.



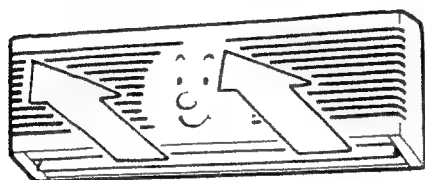
# AIR FLOW DIRECTION ADJUSTMENT

## <WALL-MOUNTED TYPE>

### Horizontal adjustment

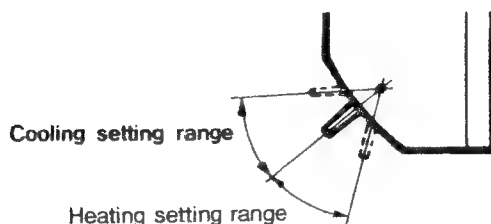
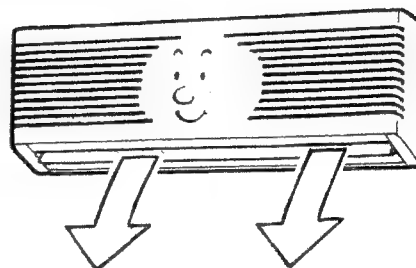
#### During cooling operations

In case of cooling, be sure to set the louvers to blow the air from front in order to get uniform circulation of a cool air throughout the room.



#### During heating operations

In case of heating, be sure to make the louvers downward in order to deliver a hot air at you foot.



#### CAUTIONS

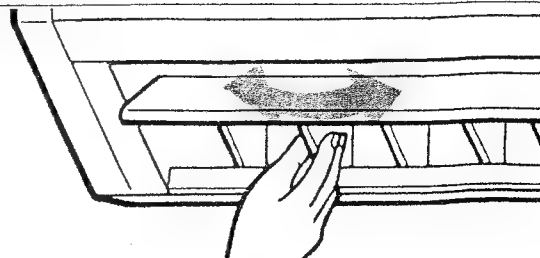
Condensed dew may be dropped over the cabinet or louver surfaces during cooling operation with the louvered grille facing downward.

#### CAUTIONS

The room temperature may be uneven during heating operation with the louvered grille facing horizontal.

### Lateral adjustment

To change lateral directions of a blown out air, adjust the vertical louvers in back of the horizontal ones as you like.



# AIR FLOW DIRECTION ADJUSTMENT

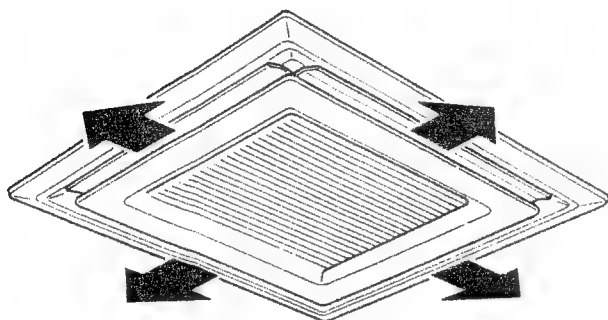
## <CASSETTE TYPE>

To further improve the effects of cooling and heating, use the outlet louver appropriately for cooling and heating operations. When you press the auto louver switch the auto louver built-in panel only, the outlet louver automatically adjusts itself to improve the cooling and heating effects.

(The illustration shows type RAV-453 UH)

### During cooling operations

In order for the cool air to be spread evenly throughout the room, set so that the air is blown out horizontally.

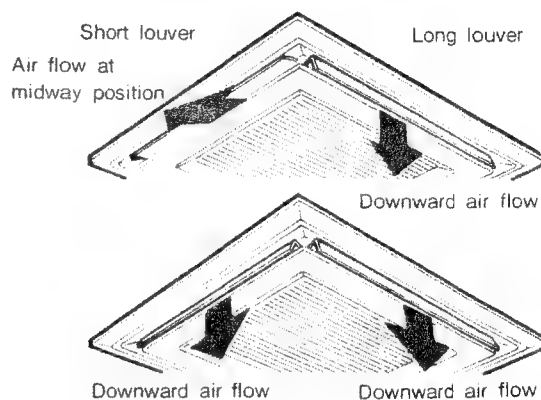


#### CAUTION

If cooling operations are conducted when the air is blown downward, condensation may form on the surfaces of the air outlets or louvers and dripping may result.

### During heating operations

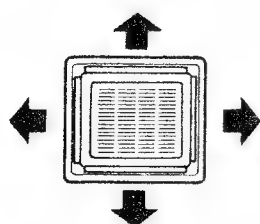
Set the long louvers to the downward position, and set the short louvers to the midway position when heating the entire room or to the downward position when heating at floor level.



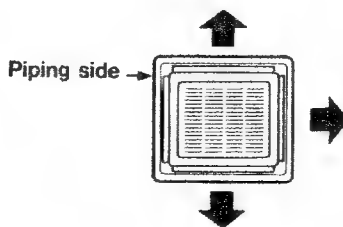
#### CAUTION

The temperature throughout the room may deviate greatly if the room is being heated with the air blown out horizontally.

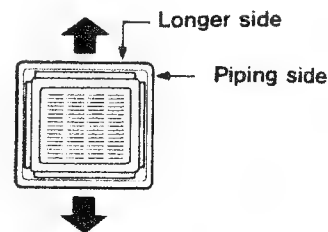
- Choose the number of air flow directions as required depending on the shape of the room and the location of the indoor unit.



four directions



Three directions



Two directions

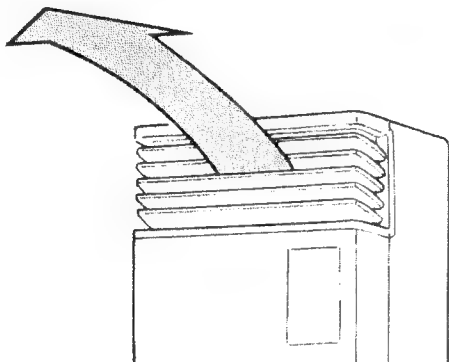
# AIR FLOW DIRECTION ADJUSTMENT

## <FLOOR-STANDING TYPE>

### Horizontal adjustment

#### During cooling operations

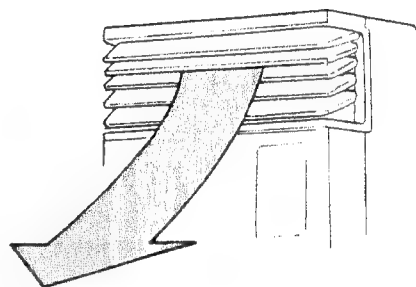
Cool air



- Turn up the horizontal grilles at the air outlet.

#### During heating operations

Hot air



- Turn down the horizontal grilles at the air outlet.

### Lateral adjustment

#### Automatic louver operation

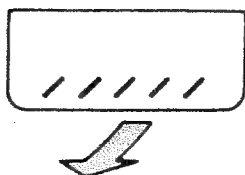
Press the LOUVER OPERATION switch, the horizontal louvers will change in directions and the wind will blow out widely.



#### Fixed louver use

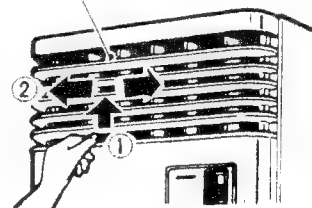
Select the good louver direction depending on cooling or heating to promote airconditioning effect, when the louvers are fixed in a direction.

To change louver directions, press on and off the LOUVER OPERATION switch.



#### Distributed air flow

Vertical grille



Lift a vertical grille and turn it to a desired direction.

Then, release a hand.

#### Example:

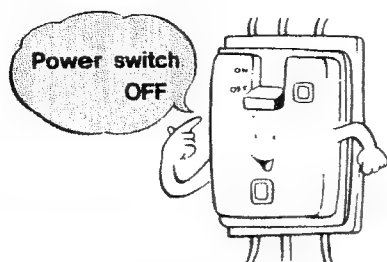




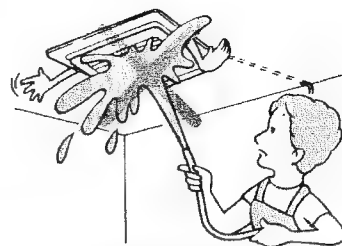
# CARE INFORMATION

## CAUTIONS

Turn the power switch off before starting to maintain your air conditioner.



To prevent degraded electrical insulation, never try to clean the air conditioner by directly spraying it with water.



## Air Filter Maintenance

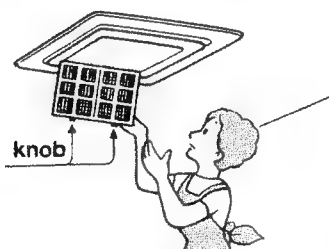
Air flow is reduced and operating efficiency is lost as the air filter is clogged with dust. Clean the filter every two weeks at least if the air conditioner has been run in an especially dusty place.



### ●Removing the Air Filter<Cassette type>

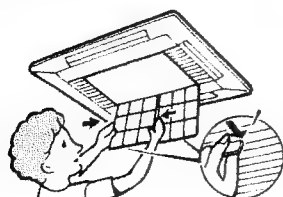
#### Model RAV-453 UHE type

Tilt the two knobs to open the inlet grille, and pull the air filter out.



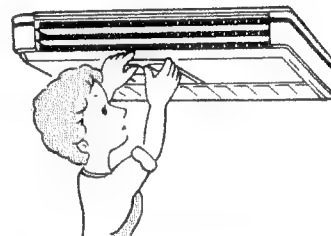
#### Model RAV-160 UH type

To draw out the air filter, pick up the "knob" of the inlet opening with the both bands, then gradually open it downward, pushing the arrow marked part of the air filter inwardly to be out of the hooks.



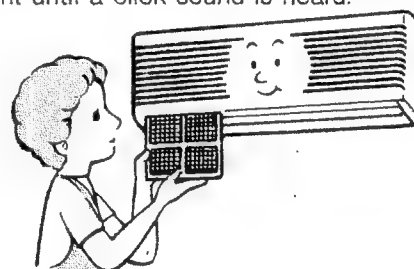
### ●Removing the Air Filter<Ceiling type>

The air filter is found inside the air inlet of the inside unit. Lifting the inlet up, pull the filter out rearward.



### ●Removing the Air Filter<Wall-mounted type>

Pull down filter by holding in the middle. To install, insert it upright until a click sound is heard.



### ●Removing the Air Filter <Floor-standing type>

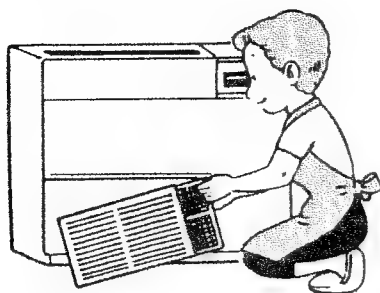
The air filter is found inside the air inlet of the internal unit. Lifting the inlet up, pull the filter out rearward.





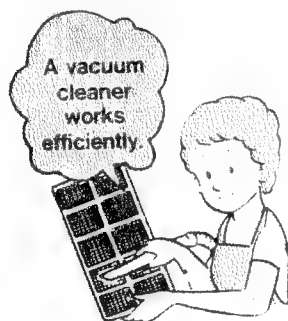
## ●Removing the Air Filter <Console type>

Push down and remove the air intake grille. Pull the air filter from the air intake grille.



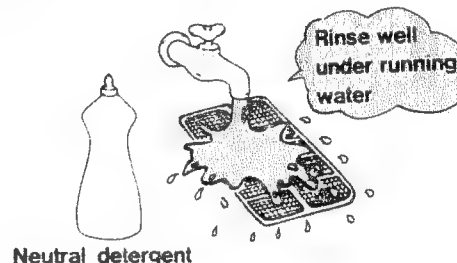
## ●Cleaning the Air Filter

To remove dust from the air filter, use a vacuum cleaner or tap it lightly. If the filter is very dirty, immerse in lukewarm water or cold water and wash it by moving it up and down. A neutral detergent solution may simplify this work. After washing, rinse the filter with water and leave it in the shade to dry thoroughly.



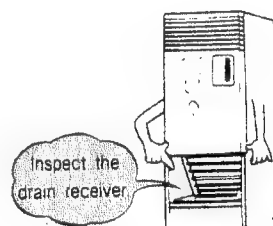
### CAUTION

Avoid using hot water at a temperature of 40°C or higher, can cause the filter to be deformed or discolored.



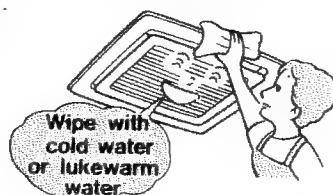
## Drain Receiver Inspection <Floor-standing type>

The drain receiver collects water removed from the air. Clogging a port in the receiver with dust and foreign matters causes an overflow of collected water. Therefore, check it once a month.



## Surface Dirt

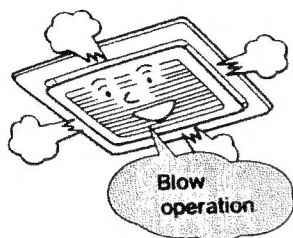
Surface dirt on the grille or cabinet can be easily wiped off with a soft cloth dipped with cold water or lukewarm water at a temperature of 40°C or below, or with neutral detergent solution if extra efficiency is desired. When a neutral detergent has been used, wipe it away thoroughly with a soft cloth wet with water.



### CAUTION

Never use gasoline, benzene, thinner or the like or spray a liquid insecticide on the plastic surfaces. These pharmaceuticals could cause the surface coating to be stripped or the plastic surfaces to be cracked or deformed.

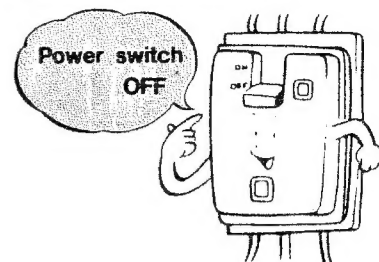
## Season End Care



- Leave the air conditioner blowing air for about half a day to allow the interior to dry completely.

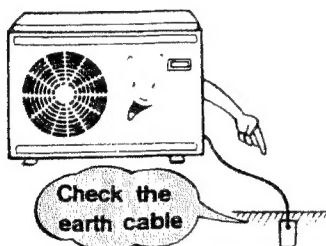


- Clean the air filter and install it in original position.



- Turn OFF the power switch.

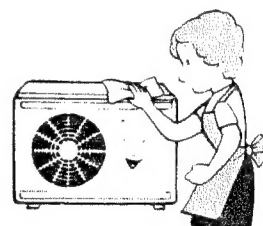
## Season Start Care



- Check the earth cable for any defect.



- Read PRECAUTIONS.



- Remove dust from over the outdoor unit.

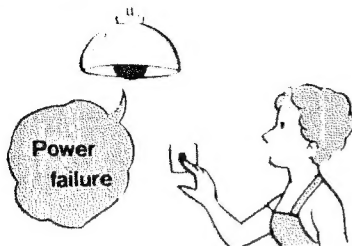
## Maintenance Service

- The cassette type unit has a built-in draining pump. When the unit is used in an oily and dusty environment, the pump filter may become blocked. This condition will prevent the pumping out of water from the drain. Therefore, clean the pump periodically. Please consult the dealers for cleaning of the drain pump.
- Apart from the user explained on pages 21–23, maintenance service is suggested, which is available at cost from the dealer from whom your air conditioner was purchased for the interiors of the air conditioner could get dirty, with consequent loss of operating efficiency, over several seasons of operation.

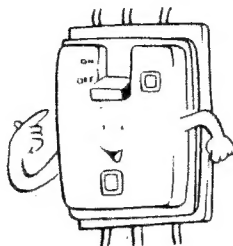
# TROUBLESHOOTING

Before requesting service, check the following points.

## ● If your air conditioner does not run.

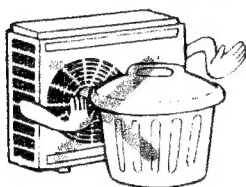


- Suspect a power failure.

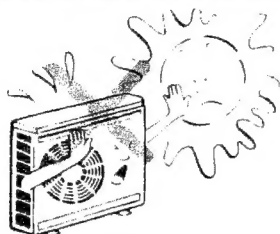


- Power fuse blown or circuit breaker tripped.

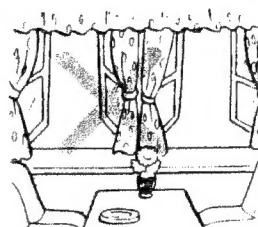
## ● If your air conditioner blows air but does not cool well.



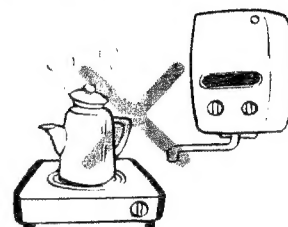
- Outdoor unit air intake or outlet blocked or poorly ventilated.



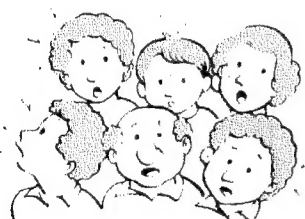
- Outdoor unit overheated under exposure to direct sunlight or heat sources.



- Door or window left open.



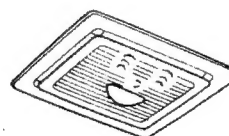
- Heating apparatus, such as a water heater and an oven, used in the room.



- Room overcrowded.



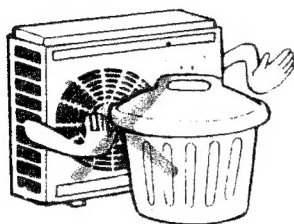
- Air filter clogged with dirt or dust.



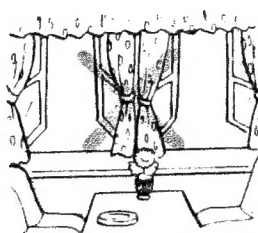
- MODE SELECT switch at FAN ONLY position. With the MODE SELECT switch being set at COOL, adjust the TEMP. CONTROL switch to a lower temperature.

If the problem still exists after all these checkouts, turn OFF the power switch and request diagnostics from the dealer from whom your air conditioner was purchased.  
The air conditioner is not customer serviceable.

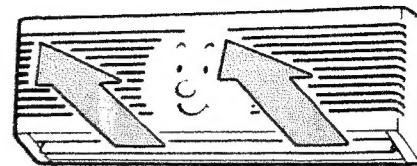
● If your air conditioner blows air but does not heat well.



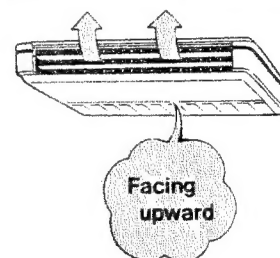
- Outdoor unit air intake or outlet blocked or poorly ventilated.



- Door or window left open.



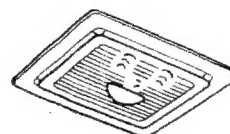
- Air outlet facing horizontal.



- Air outlet facing upward.



- Air filter clogged with dirt or dust.



Proper  
temperature  
setting



- MODE SELECT switch at FAN ONLY position. With the MODE SELECT switch being set at HEAT 1, adjust the TEMP. CONTROL switch to a higher temperature.

If the problem still exists after all these checkouts, turn OFF the power switch and request diagnostics from the dealer from whom your air conditioner was purchased.  
The air conditioner is not customer serviceable.



# INSTRUCTIONS FOR EXTENDED SERVICE LIFE

Take notice of the following instructions to use your air conditioner with both safety and comfort over extended time periods.

## ●LOCATION

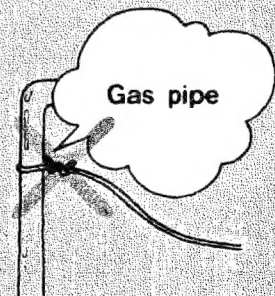
- 1** Install both the indoor and outdoor units on a foundation capable of fully withstanding their weights and vibration.
- 2** Allow sufficient space around the air intake and outlet to provide adequate ventilation.
- 3** Your air conditioner removes moisture from room air when cooling. Allow the water to be drained completely.
- 4** Avoid installing the air conditioner in a place likely to be exposed to an inflammable gas.
- 5** The air conditioner is liable to be accelerated failure when used in certain special environments-such as places containing oils (including machine oils), salt (as on coastal areas), and sulphide gas (as in spa). The air conditioner, when installed in these places, requires special maintenance. Check with your dealer.
- 6** Locate the outdoor unit where its hot air and noise will not cause a nuisance to your neighbors.
- 7** Avoid installing the outdoor unit where strong winds could hit the air outlet.

## ●WIRING

- 1** Be sure to keep your air conditioner earthed to protect against electrical shock hazards. Check with your dealer for further details.
- 2** Operate the air conditioner from a dedicated power source.
- 3** Law also requires the installation of a circuit breaker. Check with your dealer or an electrical contractor.
- 4** When the power fuse blows out, replace with a fuse with the same rating. Never substitute a wire or copper wire, which could cause a malfunction or even fire.

### CAUTIONS

- Where the earthe cable is connected to water piping, adequate earthing will not be established if a PVC pipe is used in the course of the piping.
- Never connect the earth cable to a gas pipe.



## ●RELOCATION

Special techniques are involved in relocating the air conditioner. Relocation service is available at cost from your dealer.